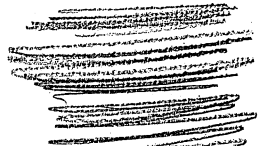
Edison Portland Cement Company Records
Plant Operations Notebook, N-03-00-00.2

This undated notebook was used by Edison, possibly during 1903, for notes, calculations, and drawings. At the beginning of the book are notes regarding a humidor kiln, as well as drawings pertaining to the design of the cement plant. Several entries concern grinding, separation, washing, and conveyance. Toward the middle of the book are a few phonograph-related drawings. The pages are unnumbered. Approximately 25 pages have been used.

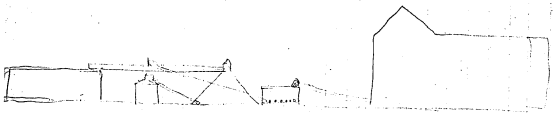


50 C Cement.

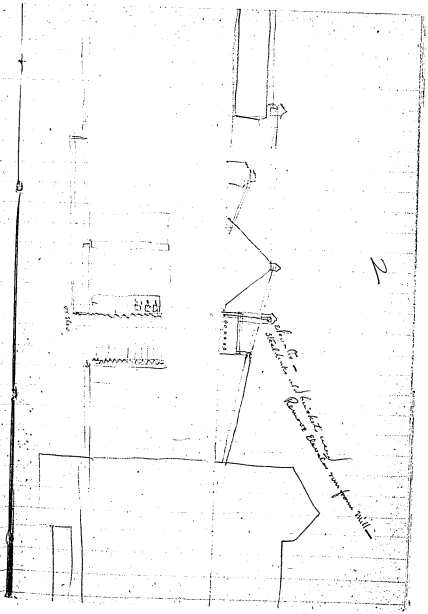
Old Kiln wt iron 272 lbs per inch length.
" Load 9 " "
" Coating 66 " "
Total 347 " "
Weight in pounds per ft in length 4164 lbs —
flanges not included.
Kiln for Humidor - 5 dia - 1/4 156 lbs per foot
Load 300 " "
5 flanges 4000 lbs each Equiv 200 " "
Total 656 " "
or 6 1/2 times less wt per foot.

Old Kiln weighs operating 624 000 lbs
If there are 14 bearing pair wheel
or 44571 lbs on each pair of wheels - more
on heat zone end —
On Humidor Kiln - 5 pair wheels 13,120 lbs each pair
with 8 inch face & close grain iron in flanges
& chilled face 24 inch wheels - thick
twice 68 OR —

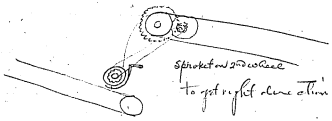
No1

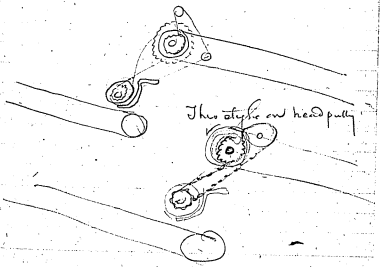


Why not use some of our steel in fine granular form — using Pneumatic Chisels to Cut ribs — roofing bottom part over before wooden part.



Wheel delivery on all belts except 200-mesh & Coal —





Elev No 2 Steel Links

Has 1 2 & 3rd 36 ft Clinker Crusher rolls of Hexigon, Mundrils

How about Coal unloading Pith Coal —

Removal Ashes

Screw Conveyor Elev at Chalk Ends Kilns —

How about more reliable feed chalk —

How about Extending Chalk Stock — to Double non mov Capacity =

Roller bearings defection

Could we adapt Pritchard's idea with this

If new wheel delivery works
why not speed up
109 & 110 - etc & also those in
fine grinder to 600 ft lbs
Quick raise are from 750 tons
to 900 tons & no labour will be
on belt per foot,

All heavy belts should
be driven both ends —

Can coal carriers be dispensed
with by feeding coal from
pile to bottom —

~~Wind furnace [illegible]~~
Charcoal Cupola.
~~Chillers of every kind~~

More Coal drying Capacity

Can Wheel delivery
to put under Robbs

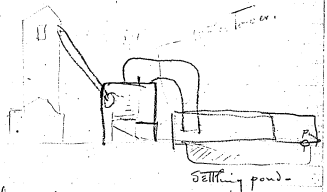
~~Foundrin Chuker Stock A~~

Bad Chuker Carry for 7 8 9 & 10 Rim

~~Operate Oyle oil in cupolas~~
~~for Cars: that dont freeze~~
~~Valid~~

Can repair Cars 62 dumped.
Cumberland Bowen & people have
better & changed ones

~~What~~ get full log on Car repairs — Costs $16 & see where trouble was & how it can be remedied —



Velocity diminishes 1/2 after delivered on ground

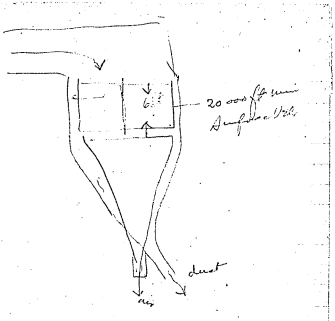
If air laden with dust is delivered at the ground it will carry and 1/10th as much

How about 4 ft Edison
Roll at Raub.

May have get another
mandrill - + get lucky
plates to finish 4 ft
size - Then we could use
Clamp underneath of
Dill furnish cement
Cars - footer under this
well prob. cement &
also we could add to
other cement too this
size -

~~How about using~~
~~BCD Roller from Edison~~
~~Raub.~~

No



Blow coal & return coarse to a sep tube in CC to grind
Dust to screw conveyor
use air blow bin
same air –

On duster spending upon the layers of ore would prevent dragging.

Dimensions 125 Cruiser for Coarse at Drier —

Screw or Chut iron

Drier Cones make 1 Ton for Coarse & distribute along Lobule of Drier

Pend down Coal stock —

Explosives. 5000 ft quarry in 13 with blower pressure

General shed dress blower houses —

Acc Coal Company work
— Mill —

Scheme working 4 drawing
Clean face with water
then blast then load
2700 tons of transfer
Shovel men etc —
fry out coaches the way
Who utilize the men —

Grand Coal Fire

Beginning only 8 emp 12 hours
80 to 66% output 8 to 8 mills —

Small use Cars

Idlers on heavy loaded belts
were very much quicker
Spider belts break —
Why do they break —

Coal being on Mixing plant is getting
stick to flow thru chutes
12 men average —

Mainways if men on shift can be
worked in Blower thru 801
beg cutting shedders &
open Conveyor under 10 g —

On Clinker Crain Sprs 3 men
on shift with shedder &
screen —

Motor strap beg item —

180 181 Rotten drive —

Washing for Lime 1.04 —

1.3 Mills saving per bbl
per 16 of Coal burned
in Kiln —

Chalk fed Kilns shared by
Pat Evan

Savings

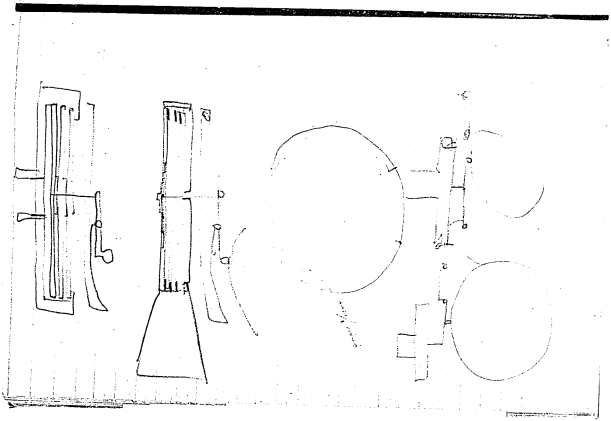
Crusher plant 1 shift 5000 to 6000	0 08
Saving cleaner Chalk & Clinker equipment	0 11
Steel shells with Labor	0 20
Gypsum - Hammer & higher lime -	0 10
10% Reduction wages -	0 18
Saving labor moving from 5400 to 6000 lbs & better grades unload lime Grade etc	0 36
Belt Conveyor Saving	0 20
Quarry Lime Saving	1 00
Sewerage Repair & other improvements	0 20
	2 42

possible -

Saving in boiler conservation & testing for fuel -	0 008
Use fuel oil in kilns 3000 lb vs 2.6400	0 006

October Costs. 71 -

Reverse Coaching ~



1st May be moisture in the green, causing flow.
2nd Pressure may have been at times less than 3½ lbs on account of binding
3= The flake has varied from bottle rubbing thicker + full hydrogen + little bubbly with which good tubes were made to Joseph smooth flake + from which no good tubes made: and flake partially had more fine in —
4 End plunger hardened & buffed since good tubes made —

"

1= It is not the KOH, as KOH of various kinds — have been used + the good tubes have collected it

Not KOH.

2nd It is not the Green as 708 Big lot has been used right along — it may be varying moisture

Not the Green —

3rd Not the pressure as that has been uniformly 3½ lbs — but may be pressure rod out has varied it.

Not the pressure

4th Total number of times been the same — 1 of 24 —

Not the number of electrics

5= Size plunger not changed with + since good tubes — except hardened + buffed end

6 Not 1½ spiral + was used as good tubes made with them & heat 708 Series —

Not 1½ spiral —

5 = Rings have been fitted tighter

6 Not the bores as they are the same
Tubes have worn .003 more inside diameter

7 The quality of the nickel plating on tubes
must have changed —

8 The angle of the dump been changed
when it consists to tube,

9 Jamprod being out 1/16 nick end of plunger
not horizontal this would throw wear more
to one side than the other,

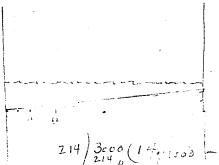
10 = Quick tubes made by dampening pressure
of lake & then letting it drop —
This should be tried —

11 Why do the Bonner tubes run over 1100 feet
run on hand after being hot run —

7 Rings have been fitted tighter

8 The rate of changing has not been
changed in the bores but rate should
been changed likely — but it has not
affected good tubes. —

Not the change of chuck grate



214) 3000 (14
214
966
934

15) 3000 (200

242) 3000 (1224
242
5840
4860

31) 7500 (242
62
130
124
31

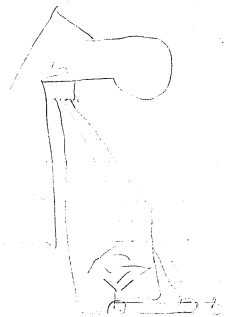
34) 7300 (214
68
50
34
16

1 amp 100 - Volt 1/. 100 ohms
1 " 200 - 200 ohms

1 amp 1 ohm 100 V - 100 watts
1 " 1 ohm 200

1 ohm - 100 ohm 100 Volts
1 ohm . 200 ohm 200 Volts

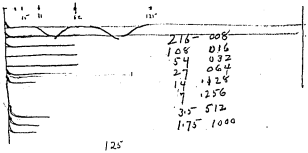
1/. hour 1/.



.004 ohm –

$\frac{36}{72}$
$\frac{16}{432}$ –

432 sqr inches $\frac{40}{1000}$ long
.004 ohm –
~~1 sqr inch .012 ohm~~



125

1.75 sqr inch $\frac{40}{1000}$ long 1 ohm
15 ohm – 1.25 bad – 120/1000 3 ohm –
1 ohm – 1

$\frac{250}{5000}$ –

1.75 – 3 ohm

$\frac{.75}{5000}$ 3 – 1½ ohm 1 tube –

1.200 ohm

250

3 | 62500
208300

20-

1/31

900

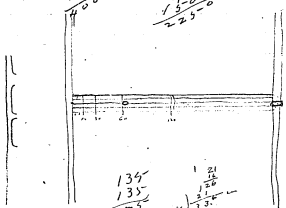
62500
375
4375

62500
562500
43750
4937

2 | 135
67

250
250
125
125
250
6

62500
65
312500
375
4000
150
150
75
150
225000
65



135
135
675

405
135
18225

16 | 3.25

62500
750
00150

18225

250
135
115

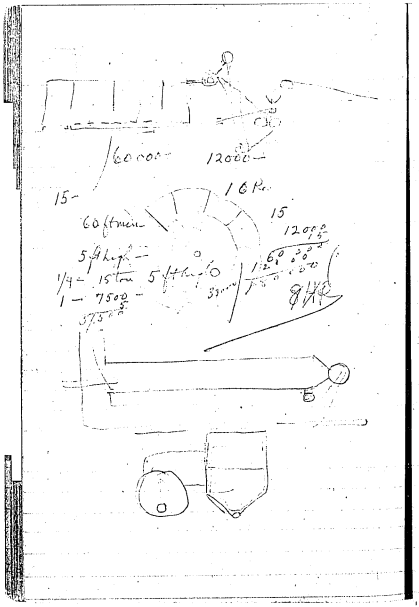
115
115
575
115
13225

250

62500
75
312500
43750
87

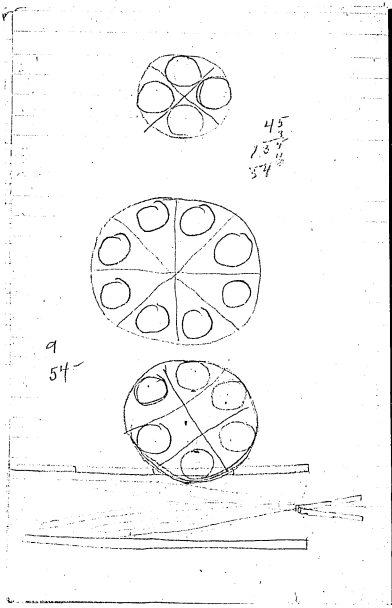
62500
3225
49275

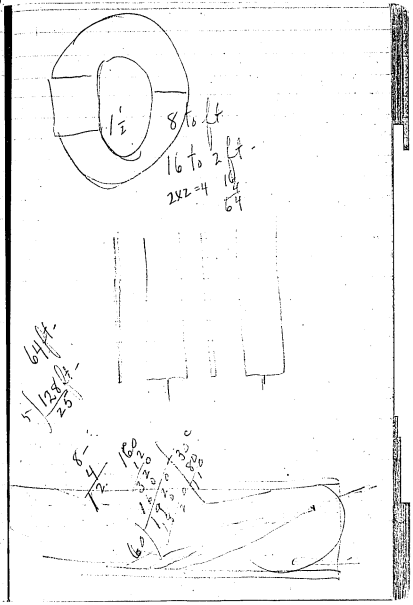
636
341
40
54
189 - Rand
87 - x03
65
4
90
21
189
425
68
23
1275
510
48
37
36
80
68
11
425
40
475
40
1 cu-1 ft. 6 cu.
1 inch. 7.2 cu.
97c
3.2
310
208
222
4
97
1896
32
6000
3
1895
625
750
1895
3
625
208
90
1000 sk.
428 cuts
240 - Rand
636
15
32
6000

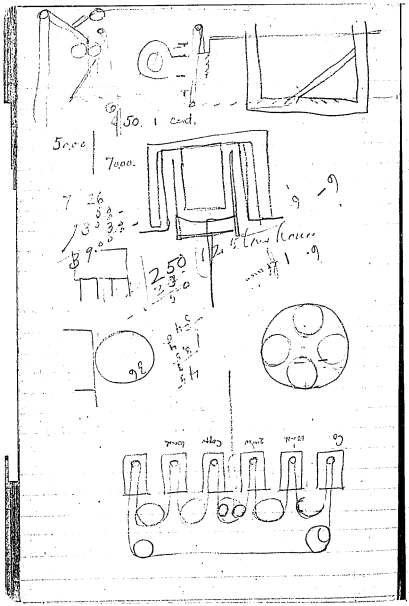


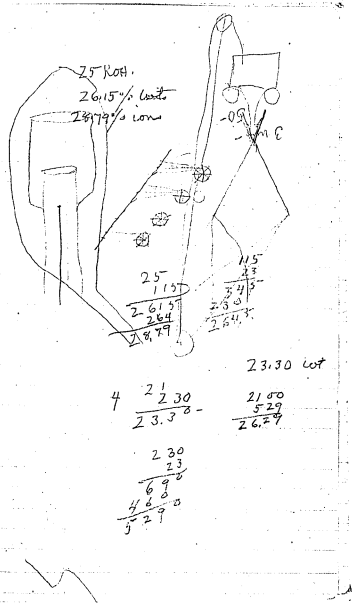
13
26

123
6
384
40
385
70
13
2
26
2
269
2
69


45
54
9
54


1½
8 to 4
16 to 2 ft.
2x2=4
64
64 ft.
128 ft.
25
8
4
12
160
80
40
20
10
5
2½
1¼
⅝
⅜
⅛
6


50. 1 cent.
5000
7000.
7 26
3 8
3 3 3
39.00
250
230
20
65
8
3.71
9
-9
1 -9
1 -9
9
9
9


25 Roll.
26.15% lost
28.79% iron
-09
3 m
25
1.15T
2.61T
264
28.79
115
23
345
230
2.61T
23.30 lost
4
21
230
23.30
21.00
5.29
26.29
230
23
690
460
529

K 38.
16
1.
55
24
77

LiOH 7
16
1
24

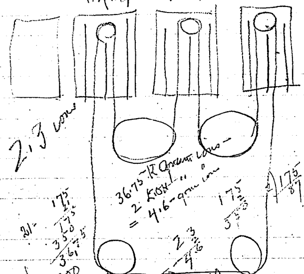
LiOH ion 24
KOH " 55

1155

24 | 1155 (47.1

24 | 55 (2.3

4.5 | 200 (44



2.3 ion

36.75 K Current ion
2 KOH " "
= 4.6 gram ion

21 KOH
1.15
22.15

22.15 by cost 21 x 2 gm
23.64% ion

1150
975
175

176 gram
21

Result
1 = 985 90 10 hour Zone
2 = 896 90
3 = 1069 78
4 = 1141 74
5 = 1117 74